

# Finding Feathers

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This resource was developed as a result of participation in CSIRO's teacher professional learning program, Educator on Board.

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## Year 3 – Finding Feathers: Biological Science in Our Environment

This unit of work was created for CSIRO as part of the Educator on Board program. Chantelle Cook from Nedlands Primary School, Perth has created this resource based on projects underway during the time she spent with scientists on board the Research Vessel *Investigator* during the ship's transit voyage INT\_T01 from Sydney to Broome from the 24<sup>th</sup> September – 8<sup>th</sup> October 2017.

This unit of work is based on the Australian Curriculum: Science and is based on Year 3 content. However, it could very easily be adjusted or modified to suit Pre-Primary, Year 1, Year 4 or Year 6 content. The unit of work as it is written focuses on birds which complements the research project undertaken on board *Investigator* 'Spatial and Temporal Variability in the Distribution and Abundance of Seabirds' led by Principal Investigator – Dr Eric Woehler. Although this project focused on seabirds, Nedlands primary school is situated nearby the Swan River and so these lessons have been designed to look at the birds in the local environment. This unit should be adapted to suit your local primary school and its area. If your school is by the ocean you can adapt it to seabirds or even cetaceans.

### Some Notes on Birdwatching

While Spring is generally breeding season for birds and a time when you will see increased activity, it is important to remember that Australian Magpies can become aggressive and territorial at this time. Please ensure you are aware of any magpies in areas you wish to take students and take appropriate safety measures such as talking with your students about what to do if a magpie swoops, wearing sunglasses to protect eyes or make a 'bird watching hat' with long cable ties or 'eyes' painted or sewn on the back of the hat.

### Choosing your locations

This unit of work will require you to organise some bird watching locations. Lesson 1 will be conducted in your school grounds but an excursion to a local park or a larger birdwatching area such as the Peel Inlet and Harvey Estuary in Perth is also part of the unit. The Peel Inlet and Harvey Estuary area was chosen as it gives a broad range of both seabirds and land birds.

See the websites below for compressive lists of bird watching observatories and areas in Western Australia or search for bird watching areas near you. BirdLife Australia has a branch in Western Australia and can provide resources (subject to availability).

Birdlife Australia. Available at: <http://www.birdlife.org.au/>

<http://www.birdlife.org.au/who-we-are/branches-and-locations/western-australia>

Frank O'Connor's Birding Western Australia. 2011. Available at: <http://birdingwa.iinet.net.au/sites/sites.htm>

## Australian Curriculum: Science

### Science Understanding

#### BIOLOGICAL SCIENCES

Living things can be grouped on the basis of observable features and can be distinguished from non-living things ([ACSSU044](#))

### Science as a Human Endeavour

#### NATURE AND DEVELOPMENT OF SCIENCE

Science involves making predictions and describing patterns and relationships ([ACSHE050](#))

#### USE AND INFLUENCE OF SCIENCE

Science knowledge helps people to understand the effect of their actions

## Science Inquiry Skills

### QUESTIONING AND PREDICTING

With guidance, identify questions in [familiar](#) contexts that can be investigated scientifically and make predictions based on prior knowledge

### PLANNING AND CONDUCTING

With guidance, plan and conduct scientific investigations to find answers to questions, considering the safe use of appropriate materials and equipment ([AC SIS054](#))

*Consider the elements of fair tests and use formal measurements and [digital technologies](#) as appropriate, to make and record observations accurately ([AC SIS055](#))*

### PROCESSING AND ANALYSING DATA AND INFORMATION

Use a range of methods including tables and simple column graphs to represent [data](#) and to identify patterns and trends ([AC SIS057](#))

*Compare results with predictions, suggesting possible reasons for findings ([AC SIS215](#))*

### EVALUATING

Reflect on investigations, including whether a test was fair or not ([AC SIS058](#))

### COMMUNICATING

Represent and communicate observations, ideas and findings using formal and informal representations ([AC SIS060](#))

## Lesson 1: Exploring Birds in our Environment

Introduction	Resources
Have a discussion with students using the following guiding questions: <ul style="list-style-type: none"> <li>• What birds have we observed in our school? Record this information.</li> <li>• Do we see different birds at home?</li> <li>• Why do we observe birds?</li> <li>• What does it tell us about our environment?</li> <li>• What natural predators might birds have? What about un-natural predators (e.g. domestic and feral cats)?</li> <li>• Do our actions affect where or how birds live? Why? Why not?</li> </ul>	<a href="https://www.ala.org.au/">https://www.ala.org.au/</a> <ul style="list-style-type: none"> <li>- Bird information sheets or websites, field guides</li> <li>- iPads with websites or books for referencing bird types</li> </ul>
<b>Activities</b>	
Show the students how to use the Atlas of Living Australia to find out about sightings and species in the area. (Have students set up accounts or set up a class account) Atlas of Living Australia. Available at: <a href="https://www.ala.org.au/">https://www.ala.org.au/</a> Have some additional information on known birds from your local area available. In small groups have students research, discuss and record the physical and behavioural features of the birds.	
<b>Plenary</b>	
Have each group do a short oral presentation for the class about the bird/s they were researching.	

## Lesson 2: Learning to Spot Birds

Introduction	Resources
Explain how to use the bird observation recording sheet available at: <a href="https://www.ala.org.au/classroom-exercises/exercises-years-3-to-4/">https://www.ala.org.au/classroom-exercises/exercises-years-3-to-4/</a> Put students into groups of 2 – 3 and explain roles: <ol style="list-style-type: none"> <li>1. Recorder – takes notes on the observation sheet,</li> <li>2. Photographer – photos help us confirm species and look at physical characteristics,</li> <li>3. Finding information and confirming species (Field guides, books or iPad)</li> </ol>	<ul style="list-style-type: none"> <li>- Bird information sheets or websites, field guides</li> <li>- Hats and glasses for bird watching</li> <li>- iPads with websites or books for referencing bird types</li> <li>- Pencils and bird observation sheets</li> <li>- Digital cameras</li> <li>- Binoculars (optional)</li> </ul>
<b>Activities</b>	
Go outside to observe birds and classify and record data.	
<b>Plenary</b>	
On return to the classroom discuss:	

<ul style="list-style-type: none"> <li>• What were our observations? What bird species did we find? How did we classify the birds we saw? Colour? Size? Behaviours?</li> </ul> <p>What questions do you have about these bird species? Have students write them down and discuss how you might be able to find the answers to these questions through your observations at your excursion. How might location (and habitats present) influence the birds we saw?</p>	
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### Lesson 3: Excursion

**\*\* Organise a bird watching experience for your students. It may be a sunrise expedition at a nearby park known for wildlife or a bird observatory such as the Peel Inlet or Hervey Estuary areas in Perth, Western Australia.**

Introduction	Resources
<p>Ask the students to make a prediction: Will we see the same species of birds at our excursion location compared to our school location? Why/Why not? In small groups have the students use the ALA and other resources to find out information of bird species found in the area of your excursion and discuss the results and the implications for the predications just made.</p>	<ul style="list-style-type: none"> <li>- Bird information sheets or websites, field guides</li> <li>- Hats and glasses for bird watching</li> <li>- iPads with websites or books for referencing bird types</li> <li>- Pencils and bird observation sheets</li> <li>- Digital cameras</li> <li>- Binoculars (optional)</li> </ul>
Activities	
<p>While on excursion students should record sightings on the excursion using the methods in lesson 1.</p>	
Plenary	
<p>Plenary: In pairs video record what was the todays highlight</p>	

### Lesson 4: Collating our Data

Introduction	Resources
<p>Back at school have groups collate their data. Show students how they can create tables and graphs in software such as Microsoft Excel (create hard copy graphs if you do not have access to IT) of the various species they found and how to log their sightings into the ALA.</p>	<p><a href="https://www.ala.org.au/">https://www.ala.org.au/</a></p> <ul style="list-style-type: none"> <li>- iPads or laptops and graphing software</li> </ul>
Activities	
<p>In groups students log their sightings and create graphs.</p>	
Plenary	
<p>Gallery walk:</p>	

Groups display their graphs and ALA information. Groups rotate from group to group looking at others work. Does anyone have any questions or comments on the work that you saw?	
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### Lesson 5 – 7: Finding Out More

Introduction	Resources
Students choose a medium to do a presentation in. For example, an app such as movie maker, book creator or explain everything or they could make a poster or board game or other medium of their choice.	<ul style="list-style-type: none"> <li>- As required for individual projects</li> </ul>
Activities	
Students presentations should include information on at least 2 types of birds, their observable features data including graphs etc and how human actions, including listing potential threats to the birds observed, that can affect bird locations plus any other criteria you deem suitable. Students will need a number of lessons to research further, analyse their findings and create their presentations.	
Plenary	
Use plenary time to check student progress and share ideas.	

### Lesson 8 – 9:

Introduction	Resources
Provide students with an opportunity to present their projects to class mates or the wider community. This could be a class presentation, a school or local community information evening or event or sharing with another class or school via an online or face to face forum.	<ul style="list-style-type: none"> <li>- As required for individual projects</li> <li>- Rubric and/or self-reflection</li> </ul>
Activities	
Students present projects.	
Plenary	
Students complete a self-assessment rubric or reflection.	